DOCUMENT RESUME

ED 109 486 CE 004 345

AUTHOR Mazzucco, April
TITLE SELECTED References and Aids for Teaching Agricultural Mechanics to Students of Agricultural Education.
INSTITUTION Virginia Polytechnic Inst. and State Univ., Blacksburg. Agricultural Education Program.; Virginia State Dept. of Education, Richmond. Div. of Vocational Education.
REPORT NO AM-7
PUB DATE 75
NOTE 57p.

EDRS PRICE MF-$0.76 HC-$3.32 PLUS POSTAGE
DESCRIPTORS *Agricultural Education; *Agricultural Engineering; Agricultural Machinery; Agricultural Safety; *Annotated Bibliographies; Audiovisual Aids; Construction (Process); Drafting; Electricity; Maintenance; Metallurgy; Power Mechanics; *Reference Materials; Resource Guides; Sheet Metal Work; Soil Conservation; *Vocational Agriculture; Water Resources; Welding

ABSTRACT

The booklet lists references and materials intended for both the student and the teacher of agricultural mechanics. The materials are grouped under nine topics: agricultural shop; metalwork and welding; agricultural machinery; agricultural power; drawing, construction, and maintenance; electricity; water management, soil and water conservation; general references; and safety. Within each category, the items are further divided into: commercial or industrial publications; bulletins and circulars; audiovisual aids; and textbooks. Each citation includes the following information: author, title, number of pages, date, price (in 1973), publisher or source (with address), and a brief annotation. (PR)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

ED109426

SELECTED REFERENCES AND AIDS FOR TEACHING AGRICULTURAL MECHANICS TO STUDENTS OF AGRICULTURAL EDUCATION

Curriculum Materials
for
Agricultural Education

Prepared by April Mazzucco
under the direction of
Larry E. Miller

Agricultural Education
College of Education
Virginia Polytechnic Institute and State University
Blacksburg, Virginia 24061

In Cooperation with

Agricultural Education Service
Division of Vocational Education
State Department of Education
Richmond, Virginia 23216

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

Publication AM-7
1975

CE 004 345

INTRODUCTION

This resource unit contains references available to the teacher and student of agricultural mechanics. The material has been drawn from private industries, state universities, state governments and government publications. This is of course not a complete list of materials available in this area of study. Consequently it should not be relied upon as a sole source of materials.

A note about prices. The price of the materials is listed as those applicable in the summer of 1973. These prices may be increased by 1974. It would be advisable to consult the source for any price changes.

Contents

There are nine topics of study in this resource unit and they are as follows;

Agricultural Shop - handtools, woodworking power tools, measurement and masonry.

Metalwork and Welding - methods of welding and metallurgy technology.

Agricultural Machinery - selecting, using and maintaining equipment.

Agricultural Power - Large and small, diesel and gas engines and batteries.

Drawing, Construction & Maintenance - drawing and drafting technology, building plans, materials and repair.

Electricity - farm, home, school and industrial applications.

Water Management, Soil and Water Conservation - farm water management, irrigation and soil control.

General References - catalogues and publications' lists of materials

in agricultural mechanics

Safety - OSHA specifications and safety with power equipment.

These nine topics are separated into commercial or industrial publications, audio-visual aids, textbook and bulletins.

KEY

T = transparency
TM = transparency master
S = slides
F.S. = film strip
leaf = leaflet
F = films
fr = frames
/c = color
/B.W. = black and white

Table of Contents

Agricultural Shop ---------- 1

Metalwork and Welding ---------- 6

Agricultural Machinery ---------- 13

Agricultural Power ---------- 18

Drawing Construction & Maintenance --------- 23

Electricity ---------- 30

Water Management,
Soil and Water Conservation ---------- 35

General References ---------- 39

Safety ---------- 43

Sources ---------- 46

AGRICULTURAL SHOP

1. Commercial Materials

Title	Pages	Pub. Date	Cost	Comments	Source
How to Choose and Use Stanley Tools	15	1972	Free	Safe use of Stanley hand tools is stressed	20
[illegible] Working Project Plans	--	1973	1.00 /set	3 sets of 8-10 plans each, beginning and advanced work.	20
[illegible]ology	34	1959	Free	Proper use of metal cutting saws and blades	17
File Filosophy	49	1956	Free	Explanation of the manufacture and use of files.	1
[illegible]eners	36	1973	Free	Selecting screws and government specifications.	
How to Become a Machinist	wall chart	--	.25	See title	
Decimal Equivalent	wall chart	--	.25	See title	20
Principl Parts of a Lathe	wall chart	--	.25	Quiz sheets for this chart are available.	1
The Drill Press	wall chart	--	.25	See title	20
Safety of Hand Tools	bklet	1973	[illegible]	Illustrations and cartoons tell the correct use of hand tools	37
[illegible]s for Every Purpose	wall chart	--	Free	Pictures of every file and their use.	15
Proper Hand Saw Use	7	--	Free	Illustrated showing correct use of cross cut and rip saws.	20
How to Use a Hand Saw	wall chart	1973	Free	Illustrates proper positions and techniques.	20
Fasteners	36	1973	Free	Selecting screws and government specifications	52

1. Commercial Materials

Title	Pages	Pub. Date	Cost	Comments	Source
Hack Saw Chart	wall chart	1973	Free	Covers types and usage.	26
Special Purpose Saws	wall chart	1973	Free	See title	26
Wood Turning Chisels	wall chart	1973	Free	Illustrates correct and sharpening procedures.	26
Choosing and Using Files	wall chart	1973	Free	See title	26
Tool Chart	wall chart	1972	Free	26"x 41" includes gauges, punches, scribes etc.	8
Decimal Equivalent and Tap Drill Sizes	wall chart	1972	Free	Equivalents of 8ths, 16ths, 32nds, and 64ths.	8
Micrometer Chart	wall chart	1972	Free	Cut away of micrometer features principle parts. 23"x 29".	8
Educational Charts Set 120s	wall charts	1972	Free	15"x 19" pictures of gauges, 15 charts in a set.	8
Above charts in 11"x 8"	--	1972	.75	Punched for notebooks	8
How to Read, Use and Care for Micrometers and Vernier Gauges	20	1972	Free	40 illustrations	8
Training Aid Kit	4 cards	1972	1.2-	Micrometers and calipers are full size on adjustable cards.	8
Decimal Equivalent Cards	--	1972	Free	3 sizes are available, pocket, desk, and desk metric.	8
When You Write Specifications	12	1973	Free	Suggested inventory for a general shop.	20
Metrically Speaking	wall charts	1973	12.95	Set of 10 posters each making a different statement about the importance of going to the metric system.	20

2. Bulletins and Circulars

Title	Type & No.	Pages	Date	Cost	Comments	Source
Helpful Information for Student Machinists	1201	--	--	Free	--	8
How to Use Hand Tools	36	--	--	Free	Covers common shop tools	73

3. Visuals

Title	Type	Length	Cost	Comments	Source
Planning a Farm Shop Layout	F.S.	69/frames	9.00	Animated drawings includes 40 page manual	42
Use of Color in Farm Mechanics Shop and on Equipment	F.S.	45/frames	6.00	Colors and tints are shown and illustrate the need for color.	42
Part II of the above film.	F.S.	69/frames	6.00	recommends colors to use.	42
The outside Micrometer	Film	12.5/min.	150.00	Step by step approach to teach students to read micrometers.	8
The Meyric System Part I Part II	 Film Film	 12.5/min 12.5/min	 230.00 270.00	Introduces the high school student to proper use and benefits of the metric system.	20

AGRICULTURAL SHOP

h. Textbooks

Title	Author	Pages	Date	Cost	Comments	Source
The Farm Shop	Wakeman, T.J.	597	1960	8.12	Written for beginning and veteran shop workers	6
Power Tool Manual	--	--	1969	1.75	12 units of study of all major power tools. Mastery test and key available test 25, key 10¢	54
Vo-Ag Student Farm Shop Manual	--	--	1969	2.00	150 shop jobs shown step by step Tests 32¢ Set key 50¢	54
Vo-Ag Shop Guide for First Year Students	--	--	1969	2.00	Introduction to metal work and power tools	54
Masonry Simplified, Tools, Materials, Practices. Vol.I	Dalzell, Ralph Townsend, G.	408	1972	7.95	Step by step learning sequence in bricklaying and cement block	19
Masonry Simplified, Vol.II Practical Construction	Dalzell, Ralph Townsend, G.	438	1972	6.50	Techniques underlying structure design and good construction	19
Chain Saw Service Manual	Long	--	1969	4.95	See title	70
Plumbers & Pipe Fitters Library	--	928	--	9.38	Geared to students in occupational training	12

WELDING AND HOT METAL WORK

1. Commercial Materials

Title	Pages	Pub. ate	Cost	Comments	Source
Standard Welding Symbols AWS	Leaf	--	Free	See title.	2
Welder's Guide	booklet	1973	.25	Fundamental welding information	2
The Procedure Handbook of Arc Welding	750	--	6.00	See title	2
New Lessons in Arc Welding	320	--	2.00	Covers manipulatory techniques, electrode and machine characteristics.	2
Plastic Demonstration Shield	--	--	5.00	Makes temporary booth for demonstrations	2
How to Read Shop Drawings	187	--	2.50	Applying AWS welding symbols	2
Teacher's Manual	58	--	1.00	Outlines 25 classroom presentations	2
Arc Welding Bookshelf	19	1973	Free	Catalogue of books by Lincolon Welding	2
Recommendations for Teaching Welding	23	1973	Free	An aid for setting up the teaching program junior high school	1
Hobart Welding Books	--	1973	Free	Catalogue of Hobart Books	1
Opportunities in Welding	23	1973	Free	Careers for the welder at ever	1
Electrodes, Wire, Flux	39	--	Free	Types and uses of electrodes	1
TIG Welding	--	--	Free	An explanation of TIG welding and the necessary equipment	1
Porta Slag Welding	128	1973	3.00	Explanation of the process	1
Welding Guide	120	1973	2.50	A how-to-do-it book of popular welding methods	1

1. Commercial Materials

Title	Pages	Pub. Date	Cost	Comments	Source
Hobart Welding Books	1	1973	Free	Catalogue of books by Hobart.	1
Arc Welding Awards	14	1973	Free	$15,000 in prizes. Tells how to enter and win. James F. Lincoln Arc Welding Foundation sponsored.	
Catalog of Literature	32	1969	Free	500 references on aluminum	41
Aluminum by Alcoa	112	1968	--	Processing and Application	41
Arc Welding	1	--	Free	Catalogue of Welding reference material	2
Welding Training Aids	1	1973	Free	of visuals and references by Hobart Catalogue	1
How-to-do-it Work Books - Welding	--	1973	Free	Catalogue describing & prising the 9 work books	1
Stabilizer	--	month	Free	Currant welding news magazine	2
Weldirectory	15	1973	Free	Selection of electrodes based on material and type weld.	2
Selection Guide	wall chart	1972	Free	Data on Lincoln electrodes	2
Ideas for use of the Forney Combination Unit	72	1972	Free	Contains ideas for welding projects and brief instructions from garden tractors to baby swings.	53
Comparative Chart of Some Commonly used Electrodes	Leaf	--	Free	Comparison of common electrodes used by major commercial companies.	53

1. Comercial Materials

Title	Pages	Pub. Date	Cost	Comments	Source
Beginners Packet	--	--	2.00	4 small books, including manuals, projects and farm equipment plans	2
Metallurgy and Materials Science	212	--	--	Planned experiments for ferrous and non-ferrous metals.	1?
Hobart Welding Information	charts	--	Free	Electrodes, their properties and applications	1
Planning Aids for Arc Welding Instruction	11	1973	Free	Factors to consider. ex. shop layout, electricity, etc.	2
ED-1 Teaching Aids Kit	--	1973	Free	Materials ranging from wall charts to student guides	2

WELDING AND HOT METAL WORK

2. Bulletins and Circulars

Title	Type & No.	Pages	Date	Cost	Comments	Source
Farm Arc Welding Procedures	524	49	1973	1.00	Teaching guide	5

3. Visuals

Title	Type	Length	Cost	Comments	Source
Arc Welding Electrode Selection	F	24/min.	Free loan	Factors to consider in electrode selection	1
Micro-wire Arc Welding	F	30/min.	Free loan	Stresses the economics of this welding	1
Micro-wire Pipe Welding	F	20/min.	Free loan	The where and how of this welding	1
The Prevention and Control of Distortion	F	20/min.	Free loan or 95.00	Explanation of the control of distortion in arc welding. Animated	2
Setting Up & Cutting With Oxy-Acetylene Equipment	Slides	36/color	15.00	Script is included cassette for slides is available - $6.00	42
Special Jobs Using Oxy-Acetylene	Slides	36/color	15.00	Script is included cassette for slides is available - $6.00	42
Marking & Cutting Pipe Using Oxy-Acetylene	Slides	48/color	17.50	Includes cutting rusty pipe, 45 degree angle etc. Script included Cassette - $6.00	42
Oxy-Acetylene Welding & Brazing for Beginners	Slides	48/color	17.50	Step-by-step setting up & practices script included. Cassette $6.00	42
Oxy-Acetylene Welding	Slides	48/color	17.50	Features overhead silver soldering aluminum welding, etc. Script included Cassette $6.00	42
ARC-welding for Beginners	Slides	48/color	17.50	Script included, Cassette $6.00	42
ARC Welding	Slides	50/color	17.50	Includes, horizontal, fillet, vertical, down & up, etc.	42

3. Visuals

Title	Type	Length	Cost	Comments	Source
Arc Welding Cast Iron	F.S.	--	1.00	--	2
Hard Surfacing	F.S.	--	1.00	--	2
Heating, Brazing, Soldering, and Cutting	F.S.	--	--	--	2
Learning ARC Welding Skills	F.S. (6)	--	7.50	Introduces the welding process, equipment, safety and arc welding skills	2
Choices	Film	24/min.	Free loan	This film dramatizes the many varied methods of welding aluminum	41

b. Textbooks

Title	Author	Pages	Date	Cost	Comments	Source
[illegible]	--	4	1973	--	Catalogue	18
[illegible]	--	111	--	2.00	A guide for planning facilities	5
[illegible]	Allen, Bell K.	663	1970	11.75	700 illustrations Study guide-$2.75	19
[illegible]	[illegible], John, [illegible] Lidbeck, J.R.	240	1972	4.95	Covers all facets of metal work	22
[illegible]	Johnson, W.C.	480	1973	6.58	Introductory text Workbook available $2.82	22
[illegible]	--	--	1960	1.50	--	74

1. Commercial Material

Title	Pages	Pub. Date	Cost	Comments	Source
Fundamentals of Service	11	1973	Free	Catalogue of manuals and visuals from John Deere	39
Technical Manual Orchard and Row Crop Air Sprayers	100	--	2.00	Operational techniques maintenance, types and selection.	31
Tractor Transmissions	32	1972	1.45	Contains 38 illustrations.	21
The Tractor Electrical System.	64	1972	2.45	Prior knowledge of tractor mechanics is helpful in understanding this publication.	21
Tractor Fuels and Lubricants.	55	1972	2.95	Selection and storage are stressed.	21
Farm Tractor Tune-up and Service Specifications	39	1972	4.95	Information for all major brands of tractors	21

2. Bulletins and Circulars

Title	Type & No.	Pages	Date	Cost	Comments	Source
Agricultural Machinery Service and Repair	101	325	1973	14.40	Complete lesson plan with 185 transparency masters	5
Suggested Basic Course Outline for Agricultural Machinery Service & Repair	479	139	1973	2.80	Teaching guide	5
Nebraska Tractor Tests Summary	--	--	--	Free	Results of testing drawbar, PTO, belt, and engine specifications	66

3. Visuals

Title	Type	Length	Cost	Comments	Source
Planning Machinery Protection	F.S.	49/frames	6.60	Questions answered Space requirements Electricity, Where, etc. 40 page manual inc.	42
5000 years of Agricultural Machinery	F.S.	94/frames	2.89	Manual included	42
Starting New Tractors Right	F.S.	41/frames	1.49	Handling tractors in the shop and field	42
Carburetor and Manifold for Farm Tractors	F.S.	29/frames	2.50	Explains basic principles of carburators and manifolds	42
Tractor Values	F.S.	34/frames	2.50	How to get long life	42
Clean Air-No Wear	F.S.	33/frames	2.50	Maintaining the air filter	42
Tractor Maintenance Priciples & Procedures	F.S.	8 strips 402/frames	77.60	Includes step by step procedures for doing many jobs. 140 pages. Color manual script on film	42
Tractor Operation and Daily Care	F.S.	4 strips 269/frames	35.70	Proper procedures and daily maintenance	42
Selecting & Storing Tractor Fuels and Lubricants	F.S.	2 strips 134/frames	18.60	Script on film	42
Lubrication, the First Step In Conservation and Maintenance of Farm Machinery	F.S.	27/frames	2.50	--	42
Where Furrows Begin	F.S.	44/frames	1.89	Emphasizes important steps in assembling plows	42
Harvesting Equipment in Operation	F.	--	Free loan	--	11

3. Visuals

Title	Type	Length	Cost	Comments	Source
Cowboys and Engines	Film	10/minutes	Free loan	Rodeo of balewagon races and maneuvers	7
Tractor Fuels and Lubricants	S.	58/color	25.25	No script. To be used in conjunction with book of same title	21
Tractor Fuels and Lubricants	F.M.	58	5.85	Black & white. Contain key illustrations from the book	21
Tractor Operation (and Daily Care)	S.	159/color	72.80	No script. To be used in conjunction with the text of the same name	21
Tractor Maintenance (Principles and Procedures)	S.	249/color	97.00	Divided into 3 sets, order as one. No script.	21
Installing Piston Rings in Farm Tractors	F.S.	B. & W.	Free loan	Diagnosing and performing a complete piston job for gasoline &diesel tractor	75

AGRICULTURAL MACHINERY

4. Textbooks

Title	Author	Pages	Date	Cost	Comments	Source
Farm Power and Machinery Management	Hunt, Donnell R.	324	1973	7.50	See title	40
Field Mowers (Selecting and Maintaining)	--	128	1968	4.25	Types, characteristics, care and selection	21
Tractor Hydraulics	--	48	1973	1.95	Scientific theories behind hydraulics and common problems are discussed	21
Ball and Roller Bearings	--	32	1973	.95	Covers bearings commonly found on farm equipment	21
Tractor Operation (and Daily Care)	--	120	1970	4.95	Includes both carburetor and diesel engines	21
Tractor Maintenance	--	152	1970	6.25	Improved revision of previous publication	21
The Tractor Electrical System	--	--	1966	2.00	--	21

AGRICULTURAL POWER

1. Commercial Materials

Title	Pages	Pub. Date	Cost	Comments	Source
Parts and Assembly of a Lead Acid Storage Battery	wall chart	1973	Free	See title	23
Small Engines(Care and Operation)	150	1972	6.25	Operating principles are explained simply	21
Small Engines(Maintenance and Repair)	208	1973	8.95	554 illustrations	21
Magneto Ignition	64	1963	.40	Covers fundamentals of design and service.	76
Tune-up Charts	72 charts	1973	10.00	Covers batteries,cables spark plugs,etc.	4
Emission Control Systems Manual	68	1973	5.00	Operating principles and procedures for all American cars.	4
Power Train	--	--		3 cylinder 201-cid diesel or gasoline engine,8 speed transmission and rear axle.	3
Facts about Spark Plugs and Engines	13	1973	Free	Basics of operation, design and maintenance.	32
Basic Automotive Ignition Systems	--	1973	Free	Wall chart,diagram	32
Basic L-P Gas Carburation Manual	16	1973	Free	Explains L-P gas carburation, benefits and application.	30
Service Manual for Tractor and Industrial Carburetors	20	1973	Free	Especially for Marvel-Schebler carburators.	30
Overhaul Manual	14	1973	Free	For model USX carburators,well illustrated.	30
Gulf Farm Tractor Guide	72	--	Free	Repair and maintenance of modern tractors	13

1. Commercial Materials

Title	Pages	Pub. Date	Cost	Comments	Source
Lubrication Chart	wall chart	--	Free	One is available for every make of tractor.	13
Model 1[illegible]-/8 Opposed Piston Engine	wall chart	--	Free	Shows cross section of the engine.	
How Our Wheels Revolve	booklet	--	Free	Explanation of automobile transmission, brakes and emission control.	37
Power Goes To Work	booklet	--	Free	The fundamentals of transferring power from engines to drive wheels.	37
Automobile Chassis	wall chart	--	Free	22"x34", available to teachers only.	37
Repair Instructions	10	1973	.50	Servicing data on all late model Briggs & Stratton engines.	10
Tune-over Charts	--	1973	5.0	20"x 24" charts on compression, carburation and ignition.	10
General Theories of Operation	32	1973	.2[illegible]	Used with the charts listed above.	10
Repair Manual	--	1973	4.5	Repair instructions and parts lists.	10
L-P Gas Carburation	2 wall charts	--	Free	2 charts, low emission carburator adjustment and a cross sectional view.	30
Facts About Storage Batteries	31	1965	Free	See title	23
How A Storage Battery Works	wall chart	1965	Free	Illustrates the chemical action in a battery.	23

3. Visuals

Title	Type	Length	Cost	Comments	Source
Internal Combustion Engine	T.	--	1.95	Red and green. Parts in green	42
Internal Combustion Engine	T.	--	1.50	One color, outline of engine only OT29	42
Internal Combustion Engine	T.	--	1.50	One color, parts identified use in conjunction with OT29	42
Spark Plugs, How to Make Them Work Better and Last Longer	F.S.	21/frames	2.50	--	42
Disassembly, Inspect, Reassembly	S.	69	6. 0	Utilizes a Briggs & Stratton 5 and 8 cubic inch Aluminum alloy engines	10
Start, Stop, Store	S.	28	2.80	Includes maintenance procedures and recommended oil and gas types	10
Trouble Shooting	S.	38	2.80	Adjustment of major engine parts is included	10
Checking Carburator	S.	15	1.50	--	10
Valves and Seats	S.	15	1.50	Inspection and refacing of valves and seats	10
Resizing Cylinders	S.	11	1.10	The when & why of resizing	10
Bearing Replacement	S.	12	1.20	Inspection and replacing of bearings	10
Small Engines (Care and Operation)	S.	193	97.00	Slides parallel book, Small Engines	21
Small Engines (Care and Operation)	T.M.	84	6.75	To be used in conjunction with book, Small Engines	21

3. Visuals

Title	Type	Length	Cost	Comments	Source
Small Engines (Maintenance, Repair)	T.F.	88	6.75	Use in conjunction with Small Engines (Maintenance and Repair)	21

AGRICULTURAL POWER

4. Textbooks

Title	Author	Pages	Date	Cost	Comments	Source
All About Small Gas Engines	Durvis	--	1963	4.50	See title	69
Automechanics	--	544	1973	6.84	Includes theory of operation, fundamentals, service and trouble shooting.	22
Automechanics (Workbook)	--	--	1973	1.86	Contains objective questions based on the above text.	22
Exploring Power Mechanics	--	240	1973	5.10	Introduces electricity, hydraulics small engines & safety practices for the beginner. Illustrated section on major engines	22

1. Commercial Materials

Title	Pages	Pub. Date	Cost	Comments	Source
Plywood Ceiling for Farm Buildings	2	1973	Free	Information on plywood applications.	9
Plywood and Poles for Farm Buildings.	2	1973	Free	Recommendations for construction	9
Plywood Floors for Farm Buildings	2	1973	Free	Includes safe load recommendations.	9
Outdoor Landscaping with Concrete.	64	--	2.50	Building walks, drives patios, steps. Geared to home owners and builders.	14
Plywood Walls for Farm Buildings	2	1973	Free	Application and finishing.	9
Plywood and Insulation for Farm Buildings.	2	1973	Free	Tips on construction, amounts of insulation and ventilation.	9
Plywood Roof Decks for Farm Buildings	2	1973	Free	Requirements according to snow load. Includes construction tips.	9
Finishing Concrete Surfaces- Exposed Aggregate Finishes for Flat Slabs.	3	--	.15	See title	14
Resurfacing Concrete Floors.	2	--	.15	New topping for concrete floors, design and concrete mixing.	14
Better Migrant Housing with Concrete.	4	1972	.15	See title	14
Recommended Practices for Laying Concrete Block..	16	1972	.75	See title	14
Concrete Masonry Basements	16	--	.75	Information on design and construction	14

1. Commercial Materials

Title	Pages	Pub. Date	Cost	Comments	Source
Vo--ag Plywood Course lecture outline	10	--	Free	Basic information on Plywood for teacher presentation	9
Unwinding a Tree... The Story of Plywood	10	--	Free	Plywood from tree to utilization.	9
Guide to Plywood Grades	3	1972	Free	Explains qualifications and markings of grades.	9
Exterior Plywood in Farm Construction.	21	1972	Free	Information on swine dairy, poultry and storage facilities.	9
Farm Applications of Exterior Plywood.	2	--	Free	Includes eight structural applications.	9
The Plywood "How To" book	23	1971	Free	How to buy, specify, work and finish.	9
Residential Construction Guide.	28	1973	Free	Walls, rooves, floors and general building	9
A Sampling of Plywood for paneling and siding.	7	--	Free	Describes types of plywood paneling.	9
Plywood for Floors	7	1972	Free	Buying and building tips.	9
Plywood Sheathing for Walls and Roofs	11	1972	Free	Construction information.	9
"How To"	16	--	Free	Using plywood in building a modern home	9
Guide Lines in Planning Grain Conditioning and Storage Systems.	23	1973	Free	Advice on size and financing.	9

1.Commercial Materials

Title	Pages	Pub. Date	Cost	Comments	Source
Plywood Finishings for Farm Buildings	2	1973	Free	Specifications on finishes, paints to use and why to finish.	9
Plywood Doors for Farm Buildings	2	1973	Free	Application and framing information.	9
Planning Farm Fences	56	--	1.85	Complete fence information for all types of farms.	21
Building Farm Fences	36	--	1.25	Step-by-step procedure for building fences over every type of terrain.	21
Planning Machinery Protection	40	--	1.70	Details on proper storage facilities. 60 illustrations.	21
Planning a Farm Shop Layout.	48	--	1.80	See title	21
Building Better Farm Homes with Concrete	41	--	1.05	Construction information. Does not include plans.	14
Planning and Building Guide	36	--	Free	Using galvinized and prepainted roofing and siding.	28
Farm Building Plans	24	1973	Free	Plans for farm buildings using galvinized roofing and siding.	28
How to Calculate Heat Transmission Coefficients and Vapor Condensation Temperature of Concrete Masonry Walls.	8	1971	.30	See title	14
Modern Plans for Modern Farms.	120	1971	.15	Plans for farms using concrete.	14

1. Commercial Materials

Title	Pages	Pub. Date	Cost	Comments	Source
Foundations for Farm Structures	8	1971	.15	Design and construction of footings and foundations	14
Concrete Mailbox Stands	6	--	.15	Includes directions for casting F.F.A. letters in stand	14
General Motors Drafting Standards	--	--	Free	Available as single copies only	37
Rigid Frame Structures	11	1972	Free	Plans for 32' and 40' buildings	9
Plywood Beef Cattle Feeder	2	--	Free	Plans and materials for building	9
Transportable Fertilizer Bin	8	--	Free	Plans and materials for building	9
Farrowing House	2	1970	Free	Plans and materials for building	9
Facts About Fir Plywood for Vo-Ag Teachers	--	1962	Free	Packet of Information lecture outline, booklets, leaflets	79

2. Bulletins and Circulars

Title	Type & No.	ages	Date	Cost	Comments	Source
U.S. Product Standard PS1 - 66 for Soft Plywood	Booklet	28	1970	Free	--	9
Building Plans	--	--	1973	Free	Available from V.[illegible].I. no catalogue is available, order by type of building	64
Catalogue of Plans, Digest and Books	--	16	1967	Free	For various facilities and buildings	68

DRAWING, CONSTRUCTION & MAINTENANCE

3. Visuals

Title	Type	Length	Cost	Comments	Source
Steel Wire in Agriculture	F.	25 min.	Free Loan	Takes steel wire from the mill to the farmer.	24
Planning Farm Fences	F.S.	70/frames	10.25	Script is on the film strip.	21
Building Farm Fences	F.S.	141/frames	20.45	Shows illustrations from book of same title.	21
Planning a Farm Shop Layout	F.S.	69/frames	10.25	Script is on the film.	21

DRAWING, CONSTRUCTION & MAINTENANCE

4. Textbooks

Title	Author	Pages	Date	Cost	Comments	Source
Farm Utility Buildings	--	64	--	3.10	Roof framing, siding, wind protection, etc. No plans	1
Drafting: Technology and Practice	--	--	--	8.97	Relates student design with industrial design.	22
Building Trades Blue Print Reading	--	197	--	4.25	160 illustrations. Covers newest trends in blue prints	19
American Technical Societies' Freehand Sketching	--	120	--	2.95	See title	19
Everyday Sketching and Drafting	--	172	--	6.00	300 illustrations 90 ready to use drafting assignments, study questions included	19
Basic Technical Drawing	Spencer, H Dygdon, John	--	19 8	8.68	750 illustrations	6

ELECTRICITY

1. Commercial Materials

Title	Pages	Pub. Date	Cost	Comments	Source
Home Appliance Servicing	608	--	5.21	Includes appliance for home and farm use	12
Electric Demonstration Kit	--	--	315.00	Contains voltmeter, watt-meter, wire panels etc.	77

ELECTRICITY

2. Bulletins and Circulars

Title	Type & No.	Pages	Date	Cost	Comments	Source
Farm Management	PI-68	21	1972	Free	Catalogue. Includes materials on Rural Electrification	29
Farm Electrification, Wiring and Safety	446	86	1973	1.75	Lesson plans	5
Farm Electrification Controls and Control Circuits	467	44	1973	.90	Lesson plans	5
Electric Motors	526	102	1973	2.05	Lesson plans	5
Electric Home Heating	--	--	1973	.15	See title	55

ELECTRICITY

3. Visuals

Title	Type	Length	Cost	Comments	Source
Batteries	T	--	3.05	All 3 types of cells illustrated Base and lower lay	42
Symbols	T	--	1.65	Common symbols in electricity. Bass only.	42
Circuits	T	--	3.25	Base with 2 lower lays.	42
Transformers	T	--	2.50	2 basic types of transformers. Base and lower lay.	42
Generator Plant - Power Transmittion	T	--	2.50	Explains power to the consumer process. Base and lower lay	42
Generator	T	--	3.35	Production of electric current. Base, 2 lower lays.	42
Parellel Circuits	T	--	1.50	Single color transparency.	42
Series Circuits	T	--	1.50	Diagram and printed information	42
Electrical Terms - Their Meaning and Use	F.S.	89/frames	18.00	36 page manual included	42
Diagraming for Electrical Wiring	F.S.	54/frames	1.48	Teaches the importance of planning & diagraming electrical systems.	42
How Farm Electric Motors Start and Run	F.S.	86/frames	16.80	Color. Single phase motors. Script on film.	42
Farm Electric Motors, Selective Production Drives	F.S.	68/frames	9.30	36 page manual included.	42
Electric Motor Part 1-Magnetism & DC Motors Part 2-Induction & AC Motors	F.S.	total 64/frames	2.25	Cartoon illustrated Captions of frames	42

3. Visuals

Title	Type	Length	Cost	Comments	Source
...ctric Motor ...t - Connecting & ...ntifying Leads ...t - Trouble Shoot- ...ing Electric Motors	F.S.	total 98/frames	2.75	Caption on film, fully illustrated	42
...ric...ir... and Safety	T	# 38	9.50	--	5
...lectric Motors ...art and Run	F.S. Tape Booklet	35/frames	59.95	Cassette tape and booklet provide script for the film strip	21
Understanding Electri- ...ity and Electrical Terms	S	54/color	23.95	No scripts. To be used in conjunction with book of same title.	21
Electric Motors (Selection, Protection Drives)	S	92/color	45.00	No script. Book of same title contains needed information	21
	T.H.	93/Bl&Wh	7.00		
Maintaining the Lighting and Wiring ...ystem	T	52/color	25.75	Selected from key illustrations of book of same title	21
	T.H.	52/Bl&Wh	4.95		

ELECTRICITY

4. Textbooks

Title	Author	Pages	Date	Cost	Comments	Source
Electricity and Electronics	Ritterman, J.A.	--	1972	11.75	An introductory text of principles of electricity and applications	6
Understanding Electricity and Electrical Terms	--	32	1970	1.80	75 illustrations. No knowledge of electricity is needed	21
Electric Motors (Selection-Protection-Drives)	--	53	1972	2.60	Non-technical information on electric motors commonly used in the home	21
Electricity and Electronics Basic	--	424	--	7.25	Includes projects with step-by-step instructions	19
Wiring Simplified	Richter, H.P.	144	1971	1.00	See title	58
Practical Electrical Wiring (Residential, Farm, and Industrial)	Richter, H.P.	672	1971	13.50	For beginning and experienced electritions alike	58

1. Commercial Materials

Title	Pages	Pub. Date	Cost	Comments	Source
...w Land and Its Care	72	--	.40	Reference on soil fertility	82
...ort on Trouble ...shooting	30	--	Free	Selection and proper use of systems	81
...and Tailored Sprinkler ...ystems	60	1969	1.00	Handbook on system designs	81
...prinkler Irrigation ...andbook	63	1971	--	Complete sprinkler system information	31
...ater Systems Selection Manual	7	1973	Free	--	35
...olyethylene Film for ...ater Conservation	6	1973	Free	Applications of black plastic as liners for canals, ponds, and ditches	78

2. Bulletins and Circulars

Title	Type & No.	Pages	Date	Cost	Comments	Source
Conservation	PL-46	9	1973	Free	Catalogue - Reference material on Soils, natural resources & erosion	29
The Well Log	--	--	1973	Free	Monthly newsletter	17
Well Drilling Manual	--	--	1973	2.00	--	17
Soil Erosion - The Work of Uncontrolled Water	#260	15	1971	.10	Reasons for erosion and what the farmer can do to prevent it	19
Conservation and The Water Cycle	#326	Leaf	1972	.10	Explanation of conservation methods to take to perpatrate the cycle	19
Controlling Erosion on Construction Sites	#347	30	1970	.25	See title	19
Know the Soil You Build On	#320	13	1972	.15	Soil and its relationship to building failures or flood damage	19
Soils and Septic Tanks	#349	11	1971	.15	Explanation of soils effect on the workability of septic tanks	19

3. Visuals

Title	Type	Length	Cost	Comments	Source
Small Watershed Management	T	--	6.50	Base with 6 overlays	42
Land Classification for Watershed Management	T	--	11.00	Base with 12 overlays	42
Design and Function of Water Control Structures	T	--	9.00	Set of 3 transparencies each with one, two or three overlays	42
Stream Channel Improvement	T	--	2.10	Base and overlay	42
Irrigation System (Planning for)	S	20½/color	97.00	No script. Use in conjunction with book of the same title	21
Irrigation and the Business of Farmnig	F	18/min	Free loan	Illustrates different methods of irrigation	57

4. Textbooks

Title	Author	Pages	Date	Cost	Comments	Source
Water Well Technology	Campbell, M. Lehr, J, H.	700	--	24.50	--	17
Agricultural Practices and Water Quality	Willrich, T.L. Smith, G.E.	415	1971	8.50	Includes agricultures involvement in polluted and clean water	40
Water Pollution Control and Abatement	Willrich, T.L. Smith, G.E.	194	1971	5.95	What the agriculturist can do	40
Erosion and Sediment Pollution Control	Beasley, R.P.	320	1972	12.95	How erosion occurs and is abated	40
Water System (Planning an Individual)	--	130	1973	5.95	Formerly Planning Water Systems for Farm and Home. 138 illustrations	21
Irrigation System (Planning for)	--	112	1971	6.75	Information on selecting and appraising systems	21

GENERAL REFERENCES

1. Commercial Materials

Title	Pages	Pub. Date	Cost	Comments	Source
Instructional Materials for Shop Courses	15	1973	Free	Catalogue of Hobar Publication	38
Book Catalogue	32	1973	Free	Vo-Tech books	19
DCA Educational Products, Industrial Education	43	1973	Free	Catalogue of audio-visual materials for construction, machine operation, mechanics and metal work	33
Sams Educational Materials Catalog	--	1973	Free	For vocational, technical and industrial arts	12
Stanley How-to Books	--	1973	Free	Listing of wood working books	20
Training Aids and Service Publications	4	1973	Free	List of teaching aids in power mechanics and electricity	16
Fundamentals of Service	10	1971	Free	Catalogue of Manuals and Visuals from John Deere	39
General Catalogue of Iowa State	46	1973	Free	List of publications by Iowa State	40
Publications List	39	1973	Free	Contains many bulletins pertaining to Ag Mechanics	36
Nasco, Agricultural Sciences & Technical Catalogue	542	1973	Free	Pages 411-531 contain audio-visual material pertinant to Vo-Ag	42
Suggested Learning Resources for Secondary School Vocational Agricluture	158	1972	--	Textbooks, References, Visual materials, Resource units and study guides	45
Catalogue of Instructional Materials	50	1974	Free	Bulletins and publications by Cornell University in Agriculture	46
Books for Agriculture	47	1973	Free	Catalogue of text books	47

General References continued

1. Commercial Materials

Title	Pages	Pub. Date	Cost	Comments	Source
Agricultural Literature Index	1	1973	Free	Educational materials and Plans listing	9
Aids for Industrial Education	9	1973	Free	Contains material on many power tools used in Vo-Ag	48
FEC Bibliography	53	1973	3.75	Reference listings of electrification education programs and materials	49
Information Bulletins	30	1973	Free	List of bulletins in all facets of Agriculture	27
List of Cornell Research Publications	23	1972	Free	Contains many bulletins in agricultural research	27
Buckeye Publications	14	1973	Free	Publications by Ohio State University	55
Delmar 1973 Catalog	44	1973	Free	Text books in vocational education	59
F & I Learning Materials	254	1972	3.00	Free & Inexpensive learning materials. Contains Ag. mechanics	60
Educator's Guide to Free Tapes, Scripts and Transpositions	295	1973	Free	General references, includes agricultural mechanics	61
U.S. Government Films	165	1969	Free	Contains films in Ag. mechanics	62
Educational Motion Pictures for Virginia Public Schools	--	1973	Free	General references	63
Educators Guide to Free Science Material	300+	1973	Free	General but contains Ag. materials	63

2. Bulletins and Circulars

Title	Type & No.	Pages	Date	Cost	Comments	Source
Information Bulletins	--	30	1973	Free	List of bulletins published by Cornell University	46
Catalogue of Plans, Digests and Books	E-70	15	1968	Free	For agricultural building	36
Publications	--	--	1974	Free	List of all publications by VPI&SU available spring 1974	65
List of Available Publications	11	86	1971	Free	Publications by USDA	29

GENERAL REFERENCES

3. Visuals

Title	Type	Length	Cost	Comments	Source
Educational Films	Films	--	--	Listing of all films offered by Stanly Tool Co.	20
John Deere Films	--	--	Free loan	Catalogue of educational films	44

2. Bulletins and Circulars

Title	Type & No.	Pages	Date	Cost	Comments	Source
Lets Curb Farm Fatalities	--	--	1972	.15	--	55
Noise on The Farm	--	--	--	Free	--	55
Portable Farm Elevator	--	--	--	.15	--	55
Slow Moving Vehicles Emblems	--	--	--	Free	--	55
Safety and Health Standards for Agriculture	OSHA 2009	17	1972	Free	Government regulations by the Department of Labor	50
Booklets on Fire Prevention	--	--	1973	Free	Wallcharts for the shop & booklets as handouts	67
Safety in Corn Harvesting	S-51	--	1965	Free	Covers use of equipment	36

SAFETY

3. Visuals

Title	Type	Length	Cost	Comments	Source
Playing It Safe With Power Tools	F	14	Free	Demonstrates safe procedures of portable handtools	56
Knowing's Not Enough	F	28min./c	Free loan	Knowledge of safety must be put into practice	80

SAFETY

4. Textbooks

Title	Author	Pages	Date	Cost	Comments	Source
Accident Prevention Manual for Shop Teachers	Williams, William	560	1973	8.25	Explanation of procedures and teacher liability. Study guide - $1.50	19

SOURCES OF MATERIALS

1) Hobart Brothers Co.
Box BW - 310
Troy, Ohio 97879

2) The Lincoln Electric Co.
22801 St. Clair Ave.
Cleveland, Ohio 44117

3) Ford Tractor Operations
2500 East Maple Rd.
Troy, Michigan 48084

4) AEA (Automotive Electric Association)
1301 West 22nd St.
Oak Brook, Illinois 60521

5) Vocational Instructional Services
F.E. Box 182
College Station, Texas 77843

6) MacMillan Publishing Co. Inc.
255 Ottley Drive, N.E.
Atlanta, Ga. 30324

7) New Holland
Division of Sperry Rand Corp.
New Holland, Pennsylvania 17557

8) The L.S. Starrett Co.
Athol, Mass. 01331

9) American Plywood Association
1119 A Street
Tacoma, Washington 98401

10) Briggs & Stratton Corp.
P.O. Box 702
Milwaukee, Wisconsin 53201

11) Gehl Co.
West Bend, Wisconsin 53095

12) Howard W. Sams & Co. Inc.
4300 West 62nd St.
Indianapolis, Indiana 46206

13) Gulf Oil Corp.
P.O. Box 1166
Pittsburgh, Pennsylvania 15230

14) Portland Cement Association
Old Orchard Rd.
Skokie, Illinois 60076

15) Nicholson File Co.
Providence, R.I. 02904

16) Commercial Service Co.
P.O. Box 2499
Anderson, Indiana

17) National Water Well Assoc.
88 East Broad St.
Columbus, Ohio 43215

18) Jefferson Publications Inc.
5011 Dempster St.
Morton Grove, Ill. 60053

19) American Technical Society
848 East 58th St.
Chicago, Illinois

20) Stanley Tools
Division of The Stanley Works
Box 1800
New Britain, Conn. 06050

21) AAVIM
American Association For
Vocational Instructional Materials
Engineering Center
Athens, Ga. 30601

22) Chas. A. Bennett Co. Inc.
809 West Detweiller Dr.
Peoria, Illinois 61614

23) ESB Brands Inc.
P.O. Box 6949
Cleveland, Ohio 44101

24) Venard Films
Box 1332
Peoria, Illinois 61601

25) South Bend Lathe
400 West Sample St.
South Bend, Indiana 46623

26) Disston, Inc.
RFD 3
Danville, Virginia 24541

27) New York State College of
Agriculture and Life Sciences
Roberts Hall, Cornell University
Ithaca, N.Y. 14850

28) Republic Steel Corporation
P.O. Box 6778
Cleveland, Ohio 44101

29) Superintendent of Documents
U.S. Government Printing Office
Washington, D.C. 20402

30) Marvel - Schebler / Tillotson
Box 663
Decatur, Illinois 62525

31) The F.E. Myers & Bro. Co.
Ashland, Ohio

32) Champion Spark Plug Co.
P.O. Box 910
Toledo, Ohio 43601

33) DCA Educational Products, Inc.
4865 Stenton Ave.
Philadelphia, Penn. 19144

34) Behlen Manufacturing Co.
P.O. Box 569
Columbus, Nebraska 68601

35) Goulds Pumps, Inc.
Seneca Falls, N.Y. 13148

36) Cooperative Extension Service
Purdue University
West Lafayette, Indiana 47907

37) General Motors Corp.
Public Relations Staff
Rm.1 - 101, General Motors Building
Detroit, Michigan 48202

38) Hobar Publications
1305 Tiller Lane
St Paul, Mn. 55112

39) John Deere Service Publications, Dept. F.
John Deere Rd.
Moline, Illinois 61265

40) Iowa State University Press
Ames, Iowa 50010

41) Aluminum Company of America
1501 Alcoa Bldb.
Pittsburgh, Pa. 15219

42) Nasco
Fort Atkinson, Wisconsin 53538

43) The Fertilizer Institute
1015 18th Street, N.W.
Washington, D.C. 20036

44) John Seere Film Library
C/O Modern Talking Picture Service Inc.
2323 New Hyde Park Road
New Hyde Park, L.I., N.Y. 11040

45) Agricultural Education Dept.
College of Agriculture
University of Nebraska
Lincoln, Nebraska

46) The Instructional Materials Service
Dept. of Education
Room 201 Stone Hall
Cornell University
Ithaca, N.Y. 14850

47) The Inter State Printers and Publishers Inc.
19 - 27 North Jackson St.
Danvelle, Illinois 61832

48) Rockwell
400 N. Lexington Ave.
Pittsburgh, Pa. 15208

49) Farm Electrification Council
Box 1008
Oak Brook, Illinois 60523

50) U.S. Dept. of Labor Occupational Safety
and Health Administration
Gateway Building. Suite 15220
3535 Market St.
Philadelphia, Pa. 19104

51) American Portable Irrigation Company
IRECO Division
1300 Bethal Drive
Eugene, Oregon 97402

52) Kaiser Handi-Book Publishers, Inc.
21 North Main St.
Port Chester, New York 10573

53) Forney Industries Inc.
Box 563
Fort Collins, Colorado 80521

54) National Vo-Ag Book Co.
Sheldon, Wisconsin 54766

55) Cooperative Extension Division
The Ohio State University
2120 Fyfle Road
Columbus, Ohio 43210

56) The Black & Decker M. & G. Co.
Power Tools
Towson Md. 21204

57) Farm Film Foundation
1425 H. St. N.W.
Washington, D.C. 20005

58) Park Publishing
6142 Park Ave.
Minneapolis, Minnesota 55417

59) Delmar Publishers
Mountainview Ave.
Albany, N.Y. 12205

60) Division of Surveys and Field Services
George Peabody College for Teachers
Nashville, Tennessee 37203

61) Educators Progress Service Inc.
Randolph, Wisconsin 54956

62) National Audio-visual Center
Washington, D.C.

63) Bureau of Teaching Materials
State Dept. of Education
Richmond, Va.

64) Plans Service
302 Seitz Hall
V.P.I. & S.U.
Blacksburg Va, 24060

65) R.W. Duncan
Director, Distribution Services
Cooperative Extension Service
405 Hutcheson Hall
Blacksburg, Va. 24061

66) Agricultural Engineering Dept.
University of Nebraska
Lincoln, Nebraska 68500

67) American Insurance Association
85 John Street
New York, N.Y. 10038

68) Farm Building Plan Service
Dept. of Ag. Engineering
Purdue University
Lafayette, Indiana 47907

69) Goodheart - Willcoy Co. Inc.
18250 Harwood
Homewood, Illinois 60430

70) Implement and Tractor Publications Inc.
1014 Wyandotte St.
Kansas City, Missouri 64105

71) Coordinators Office American Association of
Agricultural Engineering and Vo - Ag
Barrow Hall
Athens, Georgia

72) Cleveland Twist Drill Co.
1242 East 49th St.
Cleveland, Ohio 44100

73) Crescent Tool Company
Foote Avenue
Jamestown, N.Y. 14701

74) Linde Company
270 Park Ave.
New York, N.Y. 10017

75) Librarian
School Assistance Department
Perfect Circle Corporation
552 South Washington
Hagerstown, Indiana 47346

76) Fairbanks Morse Inc.
701 Lawton Ave.
Beloit, Wisconsin 53511

77) Electro Tech, Inc.
690 Murphy Ave., S.W.
Atlanta, Georgia 30300

78) Gering Products, Inc.
Kenilworth, New Jersey 07033

79) Douglas Fir Plywood Association
Tacome, Washington 98400

80) New York Film Distribution Center
United States Steel Corp.
71 Broodway
New York, N.Y. 10060